

AMENDMENTS TO THE SPECIFICATION:

On page 5, after line 22, please add the following:

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURES 1a and 1b show respectively first and second cycles of a preferred process according to the invention;

FIGURES 2a and 2b show respectively first and second cycles of an alternative process according to the invention;

FIGURE 3 shows typical adaptor molecules for use in the invention;

FIGURE 4 shows a preferred method of producing target DNA for sequencing in accordance with the invention;

FIGURE 5 shows a bar chart depicting the data for the first cycle of a 4-mer sequencing experiment, series 1 being without ligase and series 2 with ligase;

FIGURE 6 shows a bar chart depicting the data for the second cycle of the 4-mer sequencing experiment, series 1 being without ligase and series 2 with ligase;
and

FIGURE 7 shows a bar chart depicting the data for the third cycle of the 4-mer sequencing experiment, series 1 being without ligase and series 2 with ligase.

On page 23, lines 4-7, replace with the following:

Sequencing template – captured to streptavidin coated plate via a biotin molecule

(B):

5'CTGGTACGTACATACGACTA'3OH (SEQ ID NO.:1)

3'GACCATGCATGTATGCTGATACAGATGAATGTATTTGATAGTCCTAGCTAAAG5

'B (SEQ ID NO.:2)

On page 23, lines 8-10, replace with the following:

Cycle 1

5'CTGGTACGTACATACGACTA'3OH (SEQUENCE ID NO.:1)

3'GACCATGCATGTATGCTGATACAGATGAATGTATTTGATAGTCCTAGCTAAAG5

'B (SEQ ID NO.:2)

On page 23, lines 14-15, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-FAM (SEQ ID NO.:3)

3'GACCATGCATGTATGCTGAT-

ACAGATGAATGTATTTGATAGTCCTAGCTAAAG5'B (SEQ ID NO.:2)

On page 23, lines 20-21, replace with the following:

5'CTGGTACGTACATACGACTA'3OH (SEQ ID NO.:1)

3'GACCATGCATGTATGCTGATACAGATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 23, line 25, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-3'OH (SEQ ID NO.:3)

On page 24, line 1, replace with the following:

3'GACCATGCATGTATGCTGAT-ACAGATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 24, lines 4-5, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-3'OH (SEQ ID NO.:3)

3'GACCATGCATGTATGCTGAT-ACAGATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 24, lines 9-10, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-TACT-FAM (SEQ ID NO.:5)

3'GACCATGCATGTATGCTGAT-ACAG-ATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 24, lines 15-16, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-3'OH (SEQ ID NO.:3)

3'GACCATGCATGTATGCTGAT-ACAGATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 24, lines 20-21, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-TACT-OH (SEQ ID NO.:5)

3'GACCATGCATGTATGCTGAT-ACAG-ATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 25, lines 2-3, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-TACT-OH (SEQ ID NO.:5)

3'GACCATGCATGTATGCTGAT-ACAG-ATGAATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 25, lines 7-8, replace with the following:

5'CTGGTACGTACATACGACTA-TGTC-TACT-TACA-FAM (SEQ ID NO.:6)

3'GACCATGCATGTATGCTGAT-ACAG-ATGA-ATGTATTTGAT(N)14-5'B (SEQ ID NO.:4)

On page 25, line 11-12, replace with the following:

Therefore, through 3 cycles of ligation of 4mers the sequence
ACAGATGAATGT (SEQ ID NO.:7) of the template was deduced.

On page 25, line 15-16, replace with the following:

sequencing primer

5'CTGGTACGTACATACGACTA'30H (SEQ ID NO.:1)

On page 25, line 18, replace with the following:

3'GACCATGCATGTATGCTGATACAGATGAATGTATTTGATAGTCCTAGCTAAAG5
'B (SEQ ID NO.:2)

On page 33, lines 9-11, replace with the following:

A total of 12 bases (3'ACAGATGAATGT5') (SEQ ID NO.:7) were successfully sequenced by three rounds of ligations using a fluorescent system which does not require the use of gel electrophoresis.